

tendency to decrease with higher CRP levels. There was no change in fetuin-A levels during HD: 206 (167.1; 231.9) ug/ml before and 208.9 (170.3; 246.3) ug/ml after HD; respectively. When corrected for haemoconcentration, decrease in fetuin-A was only 2.8% ($p < 0.05$). There was also no difference between effect of hemodialysis and hemodiafiltration procedure. The use of different calcium dialysate concentrations had distinct effect on iPTH levels during and after HD, however, we observed no associated changes in fetuin-A levels. The use of dialysate solution with citric acid had no effect on fetuin-A levels. In conclusion, standard bicarbonate HD with polysulfone dialyser and ultrapure dialysate induces only minor changes in fetuin-A and no changes in hsCRP levels. iPTH levels correlate positively with predialysis fetuin-A, but distinct acute changes in iPTH secretion induced by different dialysate calcium concentrations have no effect on serum fetuin-A levels after a single HD.

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OUTCOME OF ZINC SUPPLEMENTATION ON NUTRITIONAL INTAKE OF CKD PATIENTS

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Zn, which might help in improving appetite/dietary intake by reducing taste abnormalities, is mostly available in protein rich foods. Pre-dialysis chronic kidney disease patients are advised low protein diet. This study was aimed to assess Zn status & influence of Zn supplementation on nutritional intake/appetite of 100 predialysis CKD patients not formally counseled for diet. 40 apparently healthy controls were included in the study. In group I (n=50), Zn sulphate (20mg elemental Zn) alone was given while dietary counseling [calories 35–40Kcal/kg bodyweight, proteins 0.6–0.8g/kg bodyweight (> 50% high biological value)] along with Zn supplementation was given to group II (n=50). Statistical significance was calculated using SPSS Inc. version 15.0. Significantly lower nutritional & Zn status ($p \leq 0.001$) in CKD pts. as compared to controls was observed. After 1 month of respective interventions, only group-II patients showed improvement in nutritional status [energy $p \leq 0.001$, protein $p \leq 0.05$, Zn ($p \leq 0$ & BMI $p \leq 0.01$, but serum Zn levels exhibited increase ($p \leq 0.001$) in group-I patients.

Conclusion: Zn supplementation alone failed to improve dietary intake as it seemed patients were scared to eat more/wrong/kidney unfriendly food in absence of clear dietary guidelines, but favorable results were observed when Zn supplementation was coupled with parametric, individualized dietary counseling which shows that role of diet counseling in removing food misconceptions & lack of knowledge is important to make any therapy effective. So there is a critical need for implementation of effective nutritional management strategies.

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RELATIONSHIP BETWEEN APPETITE LEVELS AND ANXIETY SYMPTOMS IN CHRONIC HEMODIALYSIS PATIENTS

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Appetite level evaluated by the appetite and diet assessment tool (ADAT) is associated with several clinical and nutritional variables. Our aim was to expand the study to psychological variables (depression symptoms, anxiety symptoms, and distorted thinking). We studied 96 chronic kidney disease patients treated with hemodialysis three times per week. Representative variables are shown as median (percentile 25–percentile 75) or absolute values. DRI = daily recommended intake.

Appetite level	Very poor, poor (N=10)	Fair, Good (N=31)	Very Good (N=55)	Tau
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Sex (F/M)	9 / 1	12 / 19*	22 / 33*	–
Age (years)	65 (46–2)	50 (29–65)	47 (33–58)*	–0.18 [§]
Creatinine (mg/dL)	7.4 (6.9–8.6)	11.1 (8.0–13.9)*	11.3 (9.4–13.0)*	
Kt/V	1.5 (1.3–1.6)	1.4 (1.2–1.5)	1.4 (1.2–1.5)	–0.03
Albumin (g/dL)	3.5 (3.3–3.9)	3.6 (3.5–3.8)	3.6 (3.5–3.8)	0.09
DRI (%)	78 (74–88)	88 (80–99)*	101 (99–103)*	0.54 [§]
Anxiety score	12 (12–20)	9 (4–16)*	5 (3–10)*	–0.26 [§]

* $p < 0.05$ versus poor or poor appetite, Mann-Whitney or chi² test.

[§] $p < 0.05$, correlation with appetite level (Kendall's Tau coefficient)

Very poor or poor appetite level was associated with female sex, older age, lower creatinine, lower DRI, and higher anxiety symptoms. Intervention of anxiety with cognitive behavioral therapy could improve nutritional treatment among vulnerable patients.

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SOCIO-ECONOMIC FACTORS, FOOD HABITS AND PHOSPHORUS LEVELS IN PATIENTS ON HEMODIALYSIS

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Hyperphosphoremia is one of the most important risk factors for morbidity and mortality not only for CKD but also for general population. Excessive dietary intake of phosphate (P) is one of the key factors. In particular, P in its inorganic form, which is contained in food additives, is more readily absorbed. Unfortunately, these food additives are mostly present in convenience fast foods, soft drinks, which is the typical food consumed by our hemodialysis population, composed by elderly people, mostly low-socio economic class, who often live alone.

To explore the association between socio-economic factors and serum phosphorus levels, we enrolled 100 patients on periodic hemodialysis treatment from 3 different units. Information, on social, cultural, economic, diet habits, therapy for hyperphosphoremia and haematological and clinical parameters had been collected through specific questionnaires administered by a physician. Statistical analysis was performed using correlation between variables with the linear regression analysis, and the stepwise logistic regression analysis, either analysis preceded by log-10 transformation if the distribution of the variables was non-gaussian. The level of statistical significance was always set at $P < 0.05$. Results showed serum phosphorus level was reduced in patients who live alone compared to patients in family ($P=0.04$), in self-sufficient ($P=0.05$) and in patients belonging to medium-higher versus lower socio-economic groups ($P=0.003$). Fast foods intakes correlates with increase in phosphorus serum levels ($P=0.002$), whilst the same correlation was not found for cheese intake. Our data show that socio-economic status and food habits are useful predictors of phosphorus serum levels. In conclusion, dietary counselling of patients on hemodialysis is mandatory. Interventions that consider the socio-economic situation allow to deliver important messages on foods with the least amount of phosphates, and adequate protein content, and they may be a successful strategy in targeting patients at a higher risk of hyperphosphoremia.

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OBESITY AND ITS RELATION TO CHRONIC KIDNEY DISEASE: A POPULATION-BASED, CROSS-SECTIONAL STUDY OF A THAI POPULATION

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Obesity represents a significant problem in patients with cardiovascular disease and chronic kidney disease (CKD). We investigated the association between body mass index (BMI) and CKD in Thai individuals. Participants underwent general health screening. Overweight, weight at risk, obese I and